IRRIGATION NOTES

1 The system is based on a 45 p.s.i. and 55 g.p.m. available at the discharge outlet of the meter or other point of connection. The Contractor shall verify the same at the award of the contract. The Contractor shall notify the Landscape Architect immediately if the data is significantly different and would adversely affect the operation of the system.

2 The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or differences in the area dimensions exist that might not have been considered in the engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect and the Owner's representative. In the event this notification is not performed, the contractor shall assume full responsibility for any revisions necessary at no expense to the owner.

3 The system features are shown schematically for graphic clarity. Piping, valves, etc. Shown within paved areas are for design clarification only and shall be installed in planting areas. Install all piping and valves in common trenches where feasible. The Contractor is responsible for selecting the proper nozzle arcs and adjusting the heads for complete coverage.

4 When drip techline is specified, emitter tubing shall be installed to minimum depth of 4". Contractor shall also adhere to Manufacturer's instructions for proper installation. The first row of techline shall be installed 4' away from back of sidewalk & 2' O.C. thereafter.

5 The irrigation system and all other mechanical, electrical, and structural systems shall be installed in accordance with all Federal, State, and Local codes and manufacture specifications recommendations and requirements. Notify the Landscape Architect immediately in writing prior to signing a contract with the owner of any conflicts. Conflicts noted after signing or after the commencement of work shall be the sole responsibility of the contractor.

6 Concrete thrust blocks shall be provided on all mainline piping. They are to be located at all abrupt changes in pipeline grade, changes to horizontal alignment, reduction in pipe sizes, end of line and in-line valves to absorb any axial thrust of the pipe. The pipe manufacture's recommendations for thrust blocks must be formed against undisturbed earth.

7 All main line pipes shall be pressure tested per standard irrigation specifications without the valves installed. The contractor shall provide all equipment needed. Maximum of 5 psi loss allowed per 4 hour test period as inspected by the city's construction management division. If any leaks develop, the repairs are to be made and test repeated until the system is proven watertight.

8 The contractor is to center load the pipe and leave all joints exposed for inspection. The pressure test shall be observed and approved by the inspector. When the pipe is proven watertight and only then may the line be backfilled.

9 All irrigation work shall be installed per city of Visalia's standard specifications. The Contractor shall secure a copy of the current specifications and set up a pre-construction meeting.

10 The Contractor is required to provide the Owner with a complete project with 100 percent coverage. He/she shall install any additional heads, nozzle changes, valves, irrigation lines, wire, etc. as necessary to accomodate any necessary field changes. The Contractor shall make all needed changes as directed by the Landscape Architect and provide the owner with a complete project at no additional cost to the owner.

11 Install check valves at the base of any heads that display low end drainage. These shall be included in the Contractors price and shall be added as directed by the Landscape Architect and provide the owner with a complete project with no additional cost to the owner.

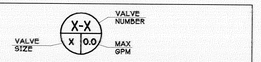
12 The Contractor shall guarantee the irrigation system and all its components for the period specified in the contract; after final acceptance by the Landscape Architect. The Contractor shall be responsible for all materials and labor associated with the guarantee, including but not limited to the loss of plant material or damage to structures due to the failure of the irrigation system.

13 The Contractor shall be responsible for providing adequately sized sleeving for all irrigation, lighting, and other landscape components. The drawings are intended to be a guide only. Sleeves shall be clearly marked during construction and shall occur under all paved areas and shall extend one foot minimum beyond all paving.

14 Splicing of 24 volt wires will not be permitted except in valve boxes. Leave a 24" coil of excess wire at each splice. Label all wires w/ waterproof markers at all splices, valve manifolds and at controller. All exposed 110v wires shall be placed in rigid metal conduit and hard wired directly to 110v service. All exposed low voltage wire for irrigation shall also be placed in rigid metal conduit.

IRRIGATION EQUIPMENT LEGEND

SYMBOL	MANUFACTURER & DESCRIPTION
	IRRITROL - ULTRAFLOW SERIES (SIZE AS NOTED)
A	ALEX-TRONIX IRRIGATION CONTROLLER - ENERCON SERIES
	FEBCO - #825Y-2" REDUCED PRESSURE BACKFLOW PREVENTOR
	NIBCO - BRONZE GATE VALVE (LINE SIZE)
M	2" WATER METER
- - - - -	MAINLINE - SCHEDULE 40 PVC PIPE (SIZE AS NOTED)
———	LATERALS - CLASS 200 PVC (SEE SIZING CHART)
= =	SLEEVES - SCHEDULE 40 PVC



ELECTRIC VALVE DESIGNATION

LATERAL PIPE SIZING CHART

0-7 GPM USE 3/4" CL 200 PVC LATERAL LINE
7-12 GPM USE 1" CL 200 PVC LATERAL LINE
12-20 GPM USE 1 1/4" CL 200 PVC LATERAL LINE
20-28 GPM USE 1 1/2" CL 200 PVC LATERAL LINE
28-45 GPM USE 2" CL 200 PVC LATERAL LINE
45-70 GPM USE 2 1/2" CL 200 PVC LATERAL LINE

NOTES

1. CONTRACTOR IS RESPONSIBLE TO VERIFY MAXIMUM FLOW FOR EVERY STATION IN G.P.M.
2. IRRIGATION COMMON AND CONTROL WIRE WILL BE #14 UF/UL DIRECT BURIAL IRRIGATION WIRE AS MANUFACTURED BY PAIGE WIRE.

SHRUB HEADS

SYM.	MANUF./ DESCRIPTION	NOZZLE RADIUS	GPM	PSI
▽▽▽▽▽	TORO 570S-12P-PRX-COM	8' MPR SERIES F, H, T, Q, VAN	1.13, 0.56, 0.34, 0.25, VARIES	25
▼▽▽▽▽	TORO 570S-12P-PRX-COM	10' MPR SERIES F, H, T, Q, VAN	1.55, 0.80, 0.59, 0.45, VARIES	25
⊠⊡⊟⊟⊞	TORO 570S-12P-PRX-COM	12' MPR SERIES F, TT, H, T, Q, VAN	2.27, 1.51, 1.19, 0.83, 0.56, VARIES	25
■■■■■■	TORO 570S-12P-PRX-COM	15' MPR SERIES F, TQ, TT, H, T, Q, VAN	4.00, 2.93, 1.83, 1.24, 0.96, VARIES	25
⊞ ☑	TORO 570S-12P-PRX-COM	4-SST (4x24) & 4-EST (3x12)	1.01, 0.51	25

TURF HEADS

SYM.	MANUF./ DESCRIPTION	NOZZLE RADIUS	GPM	PSI
⊕⊖⊖◷◎	TORO 570S-6P-PRX-COM	8' MPR SERIES F, H, T, Q, VAN	1.13, 0.56, 0.34, 0.25, VARIES	25
●◓◔◔◉	TORO 570S-6P-PRX-COM	10' MPR SERIES F, H, T, Q, VAN	1.55, 0.80, 0.59, 0.45, VARIES	25
⊠⊡⊟⊟⊞	TORO 570S-6P-PRX-COM	12' MPR SERIES F, TT, H, T, Q, VAN	2.27, 1.51, 1.19, 0.83, 0.56, VARIES	25
■■■■■■	TORO 570S-6P-PRX-COM	15' MPR SERIES F, TQ, TT, H, T, Q, VAN	4.00, 2.93, 1.83, 1.24, 0.96, VARIES	25
ⓕ ⓥ	TORO 570S-6P-PRX-COM	4-SST (4x24) & 4-EST (3x12)	1.01, 0.51	25

BUBBLERS

SYM.	MANUF./ DESCRIPTION	PATTERN; BODY	GPM; RADIUS	PSI
●	(2) FB-50-PC NOZZLE	FLOOD; 570S-3P-PRX-COM	0.45; N/A	25

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REVISIONS
March 2, 2005
March 18, 2005
April 12, 2005
May 9, 2005
May 31, 2005

ACCT NO.
FILE NO.
REF. & REV.

CITY OF FRESNO
DEPARTMENT OF PUBLIC WORKS
DAVID HEALEY, DIRECTOR

TRACT 5224
DeYoung Communities
Team 5

APPROVED:
CONST. ENG.
CITY ENGR. ENG.
OFFICE ENG.
DR. BY: MB
CH. BY: TB
DATE: 12-14-2004
SCALE: AS SHOWN
SHEET NO. 2
OF 25 SHEETS
15-C-12464

TEA 04566